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NATURE-STUDIES WITH BIRDS FOR THE ELEMENTARY SCHOOL.

[Continued from the April, 1905, number]

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V. BIRD PROTECTION

Before we can ask for protection of the birds, we must explain why and how they should be protected. This can be done most clearly by taking up separately the several phases of the subject. Accordingly the following arrangement has been adopted:

1. The benefits derived from birds.
2. The destruction of birds.
3. Bird enemies.

1. *The benefits derived from birds.*—Birds are of value æsthetically and economically. They possess and use freely voices that delight everyone. They furnish early morning concerts free of charge, and their songs still remain their own private property, as no one has ever been able to record them so that they can be reproduced on any musical instrument. Bird-songs contribute much to our happiness, and their value cannot be estimated.

Birds are beautiful to look at. Most of them play an important part in the enjoyment of a day in the country. Their plumage, always kept in perfect condition, is wonderfully diverse in its colors and varying effects. The flight of birds is beautiful and graceful, and no landscape is complete without the presence of bird inhabitants.

Economically birds are of undoubted value, and the benefits derived from them can be computed approximately in dollars and cents. A child may estimate the number of insects destroyed by a certain bird if he watches the parents of a family of young carry food to them. The wrens that built the nest shown on Plate XV of the *Elementary School Teacher* (opposite p. 412)

for March, 1905, brought food to their young every few minutes. Both father and mother birds shared in this work, and the average number of times food was brought per hour was forty-three. This was continued, with short intermissions, for over sixteen hours each day.

A great amount of work has been done by the United States Department of Agriculture in determining the relations of birds to agriculture. The results may be obtained free of charge by addressing the Department of Agriculture, Washington, D. C. A few of the reports ready for distribution are given below.

Beal, F. E. L.:

1895. "The Crow, Blackbirds and their Food."

1896. "The Blue Jay and its Food."

1900. "How Birds Affect the Orchard."

1900. "Food of the Bobolink, Blackbirds, and Grackles."

Judd, Sylvester D.:

1898. "Birds as Weed Destroyers."

1900. "The Food of Nesting Birds."

1903. "The Economic Value of the Bobwhite."

Palmer, T. S.:

1898. The Danger of Introducing Noxious Animals and Birds."

Fisher, A. K.:

1901. "Two Vanishing Game Birds: The Woodcock and the Wood Duck."

McAtee, W. L.:

1905. "The Horned Larks and Their Relation to Agriculture."

We may take the kingbird as an example of the work done by the ornithologists named above. Mr. Beal examined 281 stomachs of the kingbird collected in various parts of the country, and came to the conclusion that about 90 per cent. of its food consists of insects, mostly injurious species, and that the vegetable food consists almost entirely of wild fruits which have no economic value. These facts, taken in connection with its well-known enmity for hawks and crows, entitle the kingbird to a place among the most desirable birds of the orchard or garden.

2. *The destruction of birds.*—Mr. William T. Hornaday has prepared the most important paper on this subject that has ever been published. It is entitled "The Destruction of Our Birds and Mammals," and was printed in the *Second Annual*

Report of the New York Zoological Society, New York, 1898.
The office of the society is at 69 Wall Street.

Mr. Hornaday's paper was based on the replies received from persons all over the United States to the following questions:

- a) Are birds decreasing in number in your locality?
- b) About how many are there now in comparison with the number fifteen years ago? (one-half as many? one-third? one-fourth?)
- c) What agency (or class of men) has been most destructive to the birds of your locality?
- d) What important species of birds or quadrupeds are becoming extinct in your state?

The report compiled from answers to these questions includes thirty-seven states and territories.

The states of North Carolina, Oregon, and California reported that there were as many birds as fifteen years ago.

Four states—Kansas, Wyoming, Utah, and Washington—reported that bird-life was increasing.

The remaining thirty states and territories, comprising about three-fifths of the total area of the United States, reported a decrease in bird-life in the last fifteen years of from 10 per cent. in Nebraska to 77 per cent. in Florida. The exact figures are as follows:

Arkansas	50%	Missouri	36%
District of Columbia.....	33%	Montana	75%
Colorado	28%	New Hampshire	32%
Connecticut	75%	New Jersey	37%
Florida	77%	New York	48%
Georgia	65%	Nebraska	10%
Idaho	40%	North Dakota	58%
Illinois	38%	Ohio	38%
Indiana	60%	Pennsylvania	51%
Indian Territory	75%	Rhode Island	60%
Iowa	37%	South Carolina	32%
Louisiana	55%	Texas	67%
Maine	52%	Vermont	30%
Massachusetts	27%	Wisconsin	40%
Michigan	23%	Average of above, 46%	
Mississippi	37%		

The following conclusions were considered justified by the facts obtained by Mr. Hornaday:

a) Throughout about three-fifths of the whole area of our country, exclusive of Alaska, bird-life in general is being annihilated.

b) The edible birds (about 144 species) have been, and still are, most severely persecuted.

c) In many localities edible birds of nearly all species have become rare, and some important species are on the point of general extermination.

d) Owing to the disappearance of the true game birds, our song and insectivorous birds are now being killed for food purposes, and, unless prevented, this abuse of nature is likely to become general.

e) The extermination, throughout this country, of the so-called "plume birds" is now practically complete.

f) The persecution of our birds during their nesting season, by egg-collectors and by boys generally, has become so universal as to demand immediate and special attention.

g) Excepting in a few localities, existing measures for the protection of birds, *as they are carried into effect*, are notoriously inadequate for the maintenance of a proper balance of bird-life.

h) Destructive agencies are constantly on the increase.

i) Under present conditions, and excepting in a few localities, the practical annihilation of all our birds, except the smallest species, and within a comparatively short period, may be regarded as absolutely certain to occur.

j) If the present war of extermination is to be terminated, drastic measures must be adopted, and resolutely carried out; and the crusade for protection must be general. No half-way measures will suffice; and it is to be expected that some of the destroyers will be displeased.

Mr. Harnaday suggests that laws of the following character would be desirable to every state and territory, save two or three:

a) Prohibit all egg-collecting, except under license from state game commissioners, and the payment of a license fee.

b) Provide for the extermination of the English sparrow.

c) Prohibit the sale of dead game, at all seasons.

d) Prohibit the killing or capture of wild birds, and of quadrupeds, other than fur-bearing animals, for commercial purposes of any kind. (This will stop the slaughter of birds for millinery purposes.)

e) Prohibit all spring shooting.

f) Prohibit the carrying or using of a gun without a license.

g) *For three years* prohibit the killing or capture of any birds, except such birds of prey as may be declared by the United States Biological Survey to be sufficiently noxious to merit destruction. The only exception should be in favor of persons desiring to collect for scientific purposes, *in moderation*, and then only when properly vouched for by some scientific institution, and duly licensed by the state game commissioners.

h) At the end of three years restrict by legal enactment the number of game birds that may be killed or taken in one day, or in any given period, by a single individual.

3. *Bird Enemies*.—There is no better way to protect birds than to discover and dispose of their enemies. The most important bird enemies are the following:

a) Hunters.

b) Boys who shoot.

c) Market hunters.

d) Plume-hunters.

e) Egg-collectors, chiefly small boys.

f) English sparrow.

g) Collectors (ornithologists and taxidermists).

h) Cats.

i) Poisons used in gardens.

The above list includes two (*b* and *e*) that concern children directly. The teaching of children is of undoubted value in the future welfare of our birds. If boys and girls are taught to regard birds as beautiful and beneficial allies, there will be no more boys who shoot and collect eggs. And when these boys and girls grow up, there will be no hunters nor wearing of feathers on hats. And these same boys and girls will teach their children to love and protect their feathered neighbors.

Laws are very useful, but we must all help to enforce them, if they are to be of real benefit. Until the proper laws are passed and enforced, we must rely on the efforts of those who are sufficiently interested to contribute time and money to the cause of bird protection.

Birds may be protected as we find them, but we can attract them also. We can protect birds by discouraging egg-collecting and the wearing of plumes on hats, by *not* keeping a cat, and by waging war on the English sparrow. We can attract birds by furnishing bird-houses for them, by planting trees and shrubs where they can build nests or obtain food, by making bird-baths where they can drink and bathe, and by supplying them with food during the winter months.